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fernald report

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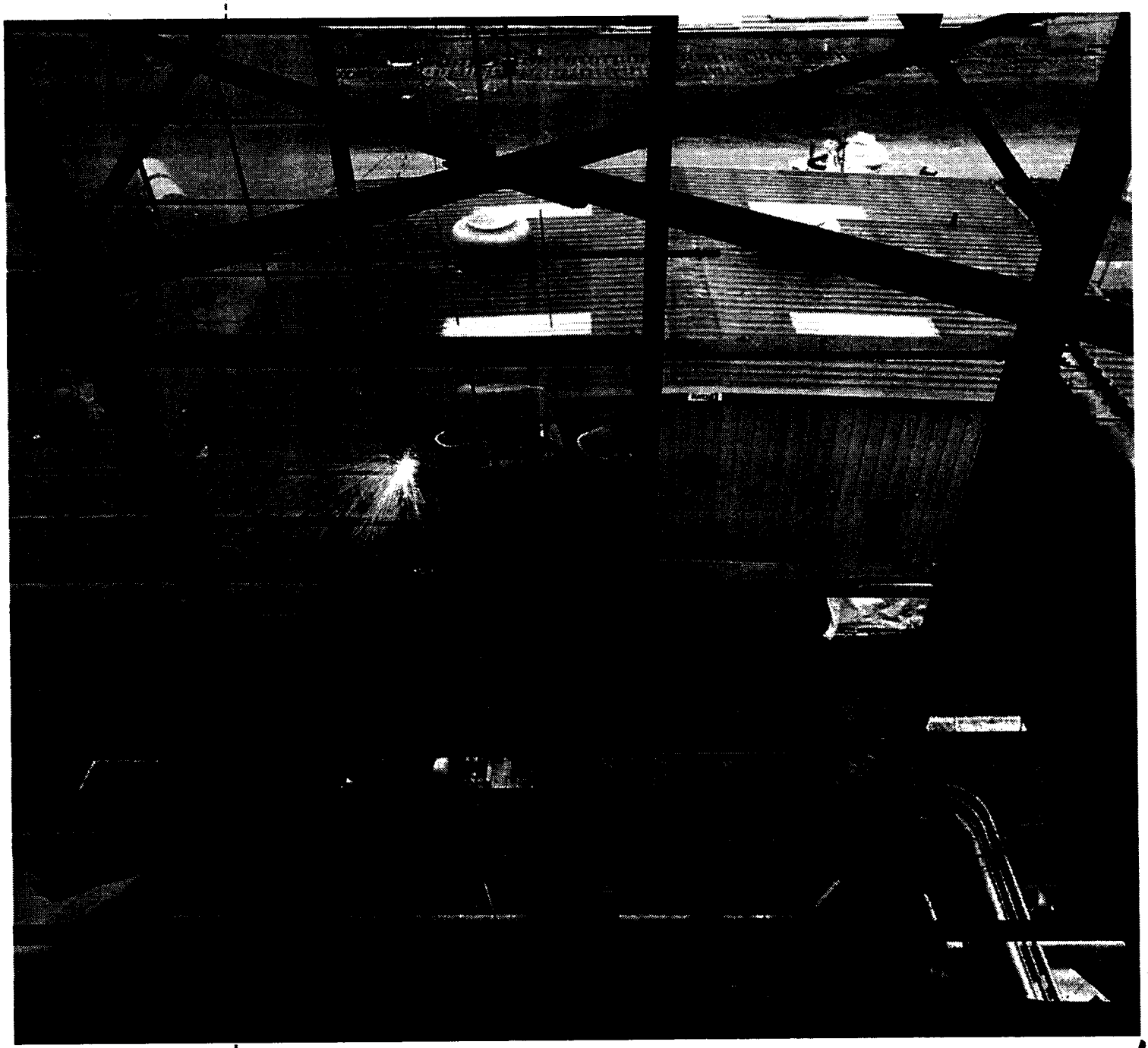
February 1998

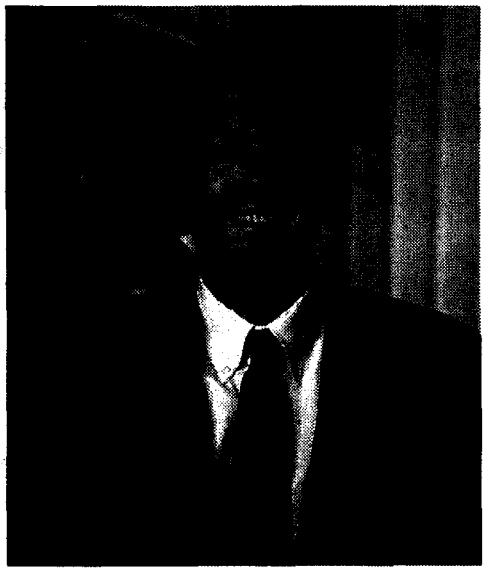


message from

Jack Craig

Washington Confirms Support of Fernald Cleanup

The progress we are making toward the expedited cleanup of this site continues to draw attention in Washington. Fernald's Accelerated Cleanup Plan is based on steady funding through 2006. Unlike previous years where budgets have dipped and projects had to be pushed back, President Clinton's 1999 budget of $275 million supports accelerated cleanup. In addition to the president's backing, Energy Secretary Federico Pena and the Assistant Secretary for Environmental Management have strongly supported Fernald's aggressive schedule.



Clearly the work in which we are engaged, the progress we are making and the efforts put forth by our stakeholders, keep Fernald high on the Departments priority list. For example IT Corp., the subcontractor selected for extraction, treatment and loading of the waste pit material for off-site shipment, is preparing for the initiation of field work later this year.

Preparation work in the Southern Waste Units is nearing completion. Soon 1.8 million cubic yards of contaminated soil will be removed from this area and placed in the On-Site Disposal Facility (OSDF). While field work has slowed in this area because of the weather, engineers are preparing for the next phase of the project, which includes waste placement in OSDF Cell 1 and the construction of the OSDF Cell 2 liner.

In the former production area, Boiler Plant demolition and Safe Shutdown activities in Plants 2/3, 6, and 8 continue to stay on schedule. This is mostly a result of better planning and experience on the part of management and their teams, plus the deployment of new decontamination and dismantling technologies which contribute to safer and more efficient work.

The retrieval of waste from Silo 3 is progressing, as team members continue to practice the operation on Silo 4. The next step will be to select a vendor that can extract, treat and dispose of this waste.

We are moving ahead in our treatment of the aquifer. Soon we will nearly double our capacity to treat water and inject it back into the aquifer, thus continuing to accelerate groundwater cleanup.

In Waste Management, issues associated with low-level waste containers and transportation are being swiftly addressed and changes will be made to ensure a "zero-defect" program. In the meantime, work continues on the T-Hopper Repackaging Project in which 130 T-Hoppers with uranium oxide will be emptied and the product sold.

We need to continue this path forward and build on our accomplishments. The results of our work are undeniable. We now, more than ever, need to use this funding to push forward in the cleanup. Only through consistent visible progress can we hope to maintain the confidence and support of our stakeholders and achieve our cleanup vision.

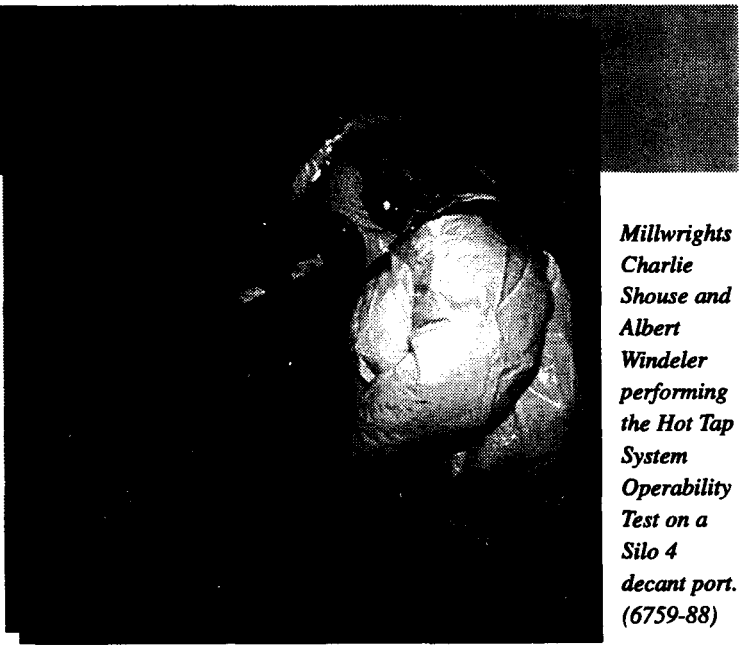
Jack Craig
Director, DOE-Fernald

***On the Cover:** The sparks fly as workers prepare to remove windows from the west side of the Boiler Plant. (6407-386).*

Small-Scale Waste Retrieval Supports Stabilization Effort

"We need actual Silo 3 material, so vendors can demonstrate that their stabilization processes work," says Nina Akgunduz, DOE-Fernald Silos Project team leader. The Small-Scale Waste Retrieval Project is seen as an important part of the vendor selection process. A mockup is now underway on Silo 4, which is empty. Akgunduz sees this as an opportunity to fine-tune the operation before it's moved to Silo 3. "We plan on finishing the mockup in the next few weeks, then we'll conduct a lessons learned before moving over to Silo 3."

The totally enclosed operation will use a hot tap to drill into the existing silo flange. Once the hole is drilled, an auger will be used to remove the samples. Samples will be placed in 30-gallon containers and overpacked into 55-gallon drums. The project is expected to be completed this spring.



Millwrights Charlie Shouse and Albert Windeler performing the Hot Tap System Operability Test on a Silo 4 decant port. (6759-88)

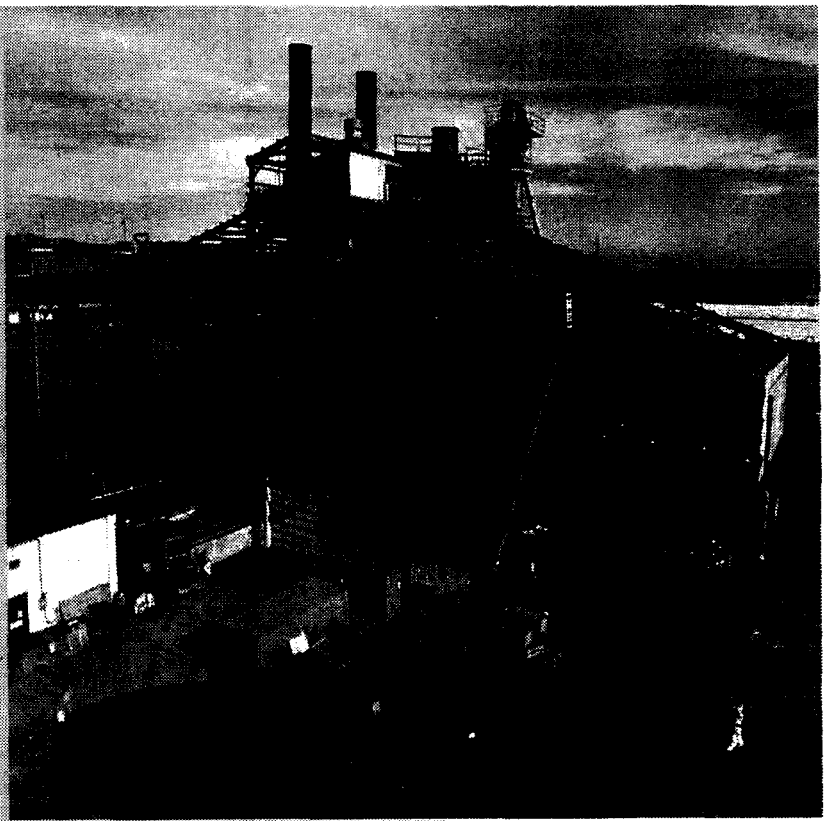
Boiler Plant Demolition Moving Forward

The Boiler and Water Plants are the first of Fernald's major structures to be completely dismantled without implosion. "Because of the building configuration and amount of equipment within the plant, implosion just doesn't make sense," said John Trygier, DOE-Fernald project manager for Facilities Decontamination and Demolition. "Dismantlement is the most effective way to bring these types of buildings down."

While the Water Plant has already been demolished, significant progress is being made at the Boiler Plant. "We're in the process of removing all of the windows and the exterior transite," said Pat O'Neill, construction contracts manager for the project.

The next month will be busy for the crews bringing down the building. "Within the next few weeks, Foster Wheeler, the subcontractor, will be removing the ductwork previously connected to the north precipitators," O'Neill said. "They'll also start removing equipment from the compressor area."

A U.S. EPA regulatory milestone requires the dismantlement of the entire Boiler/Water Plant Complex to be complete by Dec. 15, 1998, but according to O'Neill, the mild winter and the incorporation of lessons learned from previous demolitions have helped them accelerate their schedule.



Above: Using a 135 foot lift, Foster Wheeler personnel have reduced the necessity of walking on the Boiler Plant's roof - saving time and increasing safety (6407-437).

Cleanup Progress Update

Waste Pits Remedial Action Project (WPRAP)

- Continued on-site rail infrastructure construction; completed erection of rail maintenance facility
- Began Shandon Yard upgrade construction
- Received U.S. EPA approval to amend *Operable Unit 1 Remedial Action Work Plan.*
- Continued review of IT Corporation's pre-mobilization contract deliverables (includes such items as Pre-Operational Health & Safety Plan, Site Preparation Package, and Excavation Plan)

On-Site Disposal Facility (OSDF)

- Placed seasonal cover (i.e. crusting agent) on Cell 1 of the OSDF; began planning for construction of OSDF Material Transfer Area
- Reviewed contractor proposals for OSDF Phase II/Southern Waste Units excavation contract (to be performed in conjunction with Soil Characterization & Excavation Project)
- Continued efforts to complete Leachate Conveyance System construction punch list items; operated system and performed routine maintenance as required
- Submitted revised *Waste Acceptance Criteria Attainment Plan* to regulatory agencies

Above: Workers replacing old railroad ties at Shandon Yard in support of the waste pits cleanup (6803-11).

Right: A layer of material 1 foot thick has been placed in the cell (6319-1063).

Far Right: Leachate or run-off water flows by gravity to this lift station and is pumped to the Biodenitrification Surge Lagoon for eventual treatment in the Advanced Wastewater Treatment facility (6584-176).

Facilities Closure & Demolition Project (FC&DP)

Safe Shutdown

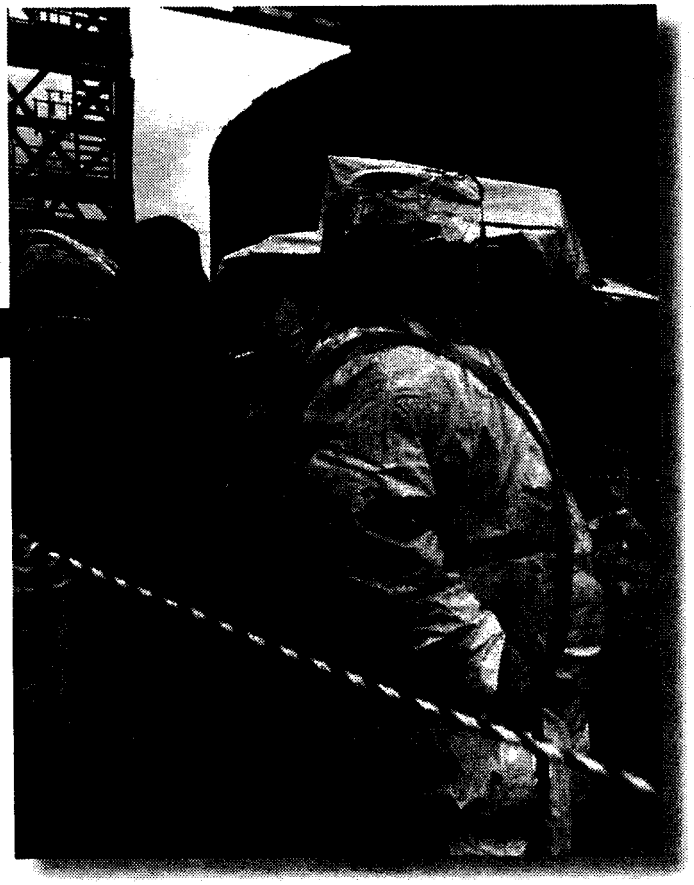
- Plant 8 —
  Performed 24 electrical isolations
  Removed holdup material in selected areas
  Excavated for domestic water line, cooling water and sewage lines
- Plant 6 —
  Isolated storage tank containing sodium hydroxide and sodium sulfide mixture; this activity involved drumming, coding and storage of material

Decontamination & Dismantlement (D&D)

- Boiler Plant/Water Plant —
  Continued window and transite removal
  Continued removal of railroad tracks
- Thorium/Plant 9 Complex —
  Began friable asbestos abatement, equipment removal and interior demolition activities
  Continued preparation and submittal of Safe Work Plans
- Maintenance/Tank Farm Complex —
  Continued development of Implementation Plan for combined complexes; submittal to regulatory agencies is expected in March 1998

Left: By removing entire sections of piping, Safe Shutdown personnel have significantly reduced airborne contamination in the area (6681-61).

Below:Rad Tech Mike VanDillen assists Corey Fabricante and Charlie Shouse in donning bubble suits for the Small-Scale Waste Retrieval Mockup. (6759-73)

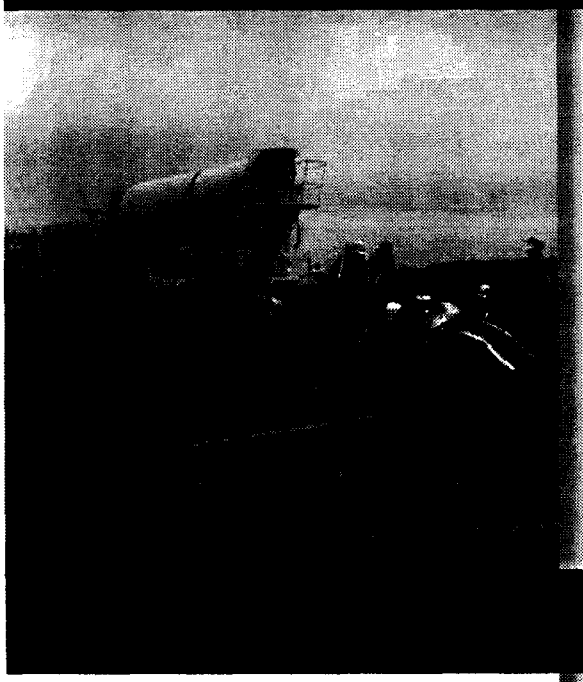


Silos Project

- Briefed stakeholders on both *Request for Proposal (RFP) for Proof-of-Principle Testing* and Initial Screening of Technologies; extended comment period to Feb. 3, 1998 at request of stakeholders
- Prepared Responsiveness Summary addressing public concerns on *Draft Final Silo 3 Explanation of Significant Differences (ESD)* and submitted final version to DOE-Fernald
- Responded to vendor/stakeholder comments received on *Silo 3 Draft RFP*; made decision to modify the RFP to include off-site treatment as an option.
- Completed evaluation of Silo 4 core sampling test results; based on these results and other already existing data, further integrity testing of silos does not appear to be warranted

Cleanup Progress Update

Aquifer Restoration & Waste Water Project



Right: Workers pave the entrance to the South Field near Willey road improving access to the area (6261-293).

Below: Riprap was added to the area along Paddy's Run in order to stabilize excessive erosion (6690-28).

- Submitted *Draft Start-Up Monitoring Plan* for South Field Extraction and South Plume Optimization project modules to regulatory agencies
- Continued readiness-to-operate activities associated with Advanced Wastewater Treatment (AWWT) Resin Regeneration System; standard startup review is expected within next 60 days
- Continued construction on:
  AWWT Facility Expansion
  New Sewage Treatment Plant

Soils Characterization & Excavation Project

- Completed majority of field activities for Paddy's Run Embankment Stabilization Project; demobilization will occur in February
- Continued field implementation activities for Southern Waste Units Site Preparation package
- Continued procurement process for OSDF Phase II/Southern Waste Units excavation contract (to be performed in conjunction with On Site Disposal Facility Project)
- Submitted *Draft Preliminary Wetland Mitigation Assessment* to regulatory agencies; outlines revised approach to wetland mitigation and expands acreage required to accomplish site restoration

Waste Management/ Nuclear Materials Disposition Projects

- White Metal Box Update — An independent team of technical experts has been formed to implement corrective actions within Fernald's Waste Shipping Program. Actions are expected within the following areas:
  Procurement • Waste Generation • Waste processing and packaging • Waste loading, transportation and shipping • Waste verification and disposal • Emergency Notification and response • Lessons learned and corrective actions
- Thorium Legacy Waste Stabilization Project — Received conditional approval of Final Technology Specific Work Plan from Ohio EPA
- Neutralization/Precipitation/Deactivation/Stabilization Project — Treated 660 drums as of January 31, 1998; identified 83 additional drums for treatment
- T-Hopper Repackaging System — Completed System Operability Testing and performed standard startup review; repackaging operations began in early February.

Above: This air filtration system will support the recently completed T-Hopper Repackaging project (6714-68).

Far Left: Workers preparing 10 gallon cans of UF4 for analysis (6731-2).

Left: Mike Malone and Steve Binning use a magnetic contour probe to check for stress cracks in a white metal box (6788-403)

Above: A Nanoprobe, a device which includes essential detection components for the system, is being lowered into the well casing by a technician.

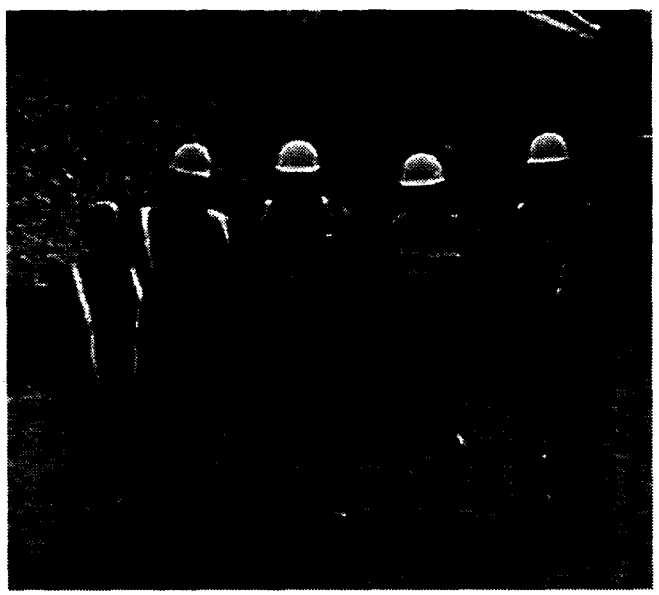
Real-Time Monitoring Tested at Fernald

Real-time radiation monitoring is being evaluated at Fernald under the Long-Term Post Closure Radiation Monitoring System demonstration. This is another technology demonstration sponsored by DOE's Office of Science and Technology. The objective is to evaluate a low-cost, multi-point radiation monitoring system for long-term, continuous, unattended monitoring of radiation levels at sites that handle hazardous materials. Systems use remote, solar-powered detector stations to transmit data automatically to a host computer.

This system may aid sites in meeting post-closure monitoring requirements at a lower cost and will significantly reduce worker exposure. Moreover, the likelihood of undetected migration of radionuclides between sampling intervals is reduced through the use of continuous, automated measurements from the same physical location without human intervention.

With the long-term post closure radiation monitoring system, alarms can be set to alert personnel when limits are exceeded. Five stations have been installed at the Fernald site: two at the inactive flyash pile, one at Paddy's Run, and two at the solid waste landfill. The demonstration is expected to be complete in December 1998.

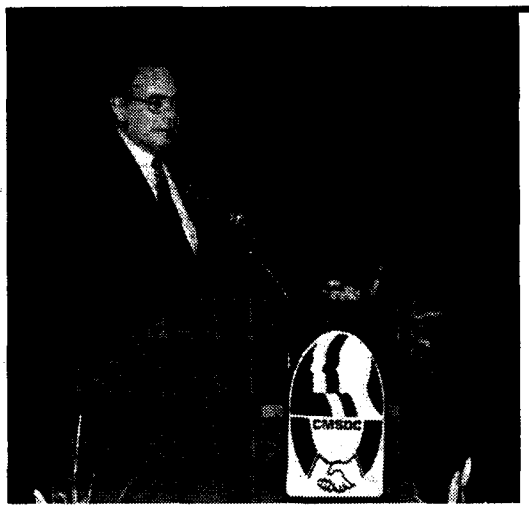
Right: The OEPA provided oversight throughout the stabilization project. From l to r: Donna Bohnnan, OEPA; Tom Schneider, OEPA; Lee McDaniel, Fluor Daniel Construction Mgr.; J.D. Chiou, Fluor Daniel Fernald Project Director; and Tom Crawford, Fluor Daniel Fernald Project Mgr. (6815-1)



Paddy's Run Embankment Stabilization Complete

The eastern bank of Paddy's Run, just west of Silos 1 and 2, has been stabilized with the installation of approximately 5,000 tons of riprap. The erosion of the stream bank, first noted in September 1997, resulted in a 30-foot high near-vertical slope when about 1700 cubic feet of soil, trees, and metal debris collapsed into the stream bed.

The U.S. Environmental Protection Agency (EPA) and the Ohio EPA (OEPA) provided review of the design document and the work plan. The project was completed the first week in February.



Approximately 400 attendees including Cincinnati Mayor Roxanne Qualls, and Cincinnati Chamber of Commerce President John Williams, were on hand as Fluor Daniel Fernald President, John Bradburne, accepted the "Corporation of the Year" award. (6806-16)

Fluor Daniel Fernald Receives "Corporation of the Year" Award

The Cincinnati Minority Supplier Development Council named Fluor Daniel Fernald "Corporation of the Year" for its innovative approach in working with small, small-disadvantaged and woman-owned businesses. Fluor Daniel Fernald has distinguished itself in the area of socioeconomic development, and many of the programs implemented at Fernald are considered to be a model within the Department of Energy complex.

"I was honored to accept this award on behalf of the company," said John Bradburne, Fluor Daniel Fernald president. "Strong support from the Department of Energy, Fluor Corporation, and our senior management has helped us achieve tremendous success in our outreach efforts at the local and national level."

Some of Fernald's major successes include:

- Winning the Mentor Protégé Program of the Year award presented by the Secretary of Energy
- Recognized as "Outstanding Agency for 1997" by the Minority Business Opportunity Committee
- "Excellent" rating from the Small Business Administration for Fluor Daniel Fernald's Subcontracting Program

Above: Don Bryant (right) and Paul Flynn (left) make up one-half of the DOP Shop crew — a team that epitomizes quality (6813-15).

The Air We Breathe

The professionals working in Fernald's Dioctyl Phthalate (DOP) Shop take their work very seriously. To be used on site, all High-Efficiency Particulate Air (HEPA) filters must pass inspection at the DOP Shop. "We inspect all filters and put them through a series of tests before they get our approval," said Lee Mericle, a millwright who has worked in the DOP Shop for 11 years. "We're the last line of defense between our field personnel and dirty air. I can't imagine a more important job."

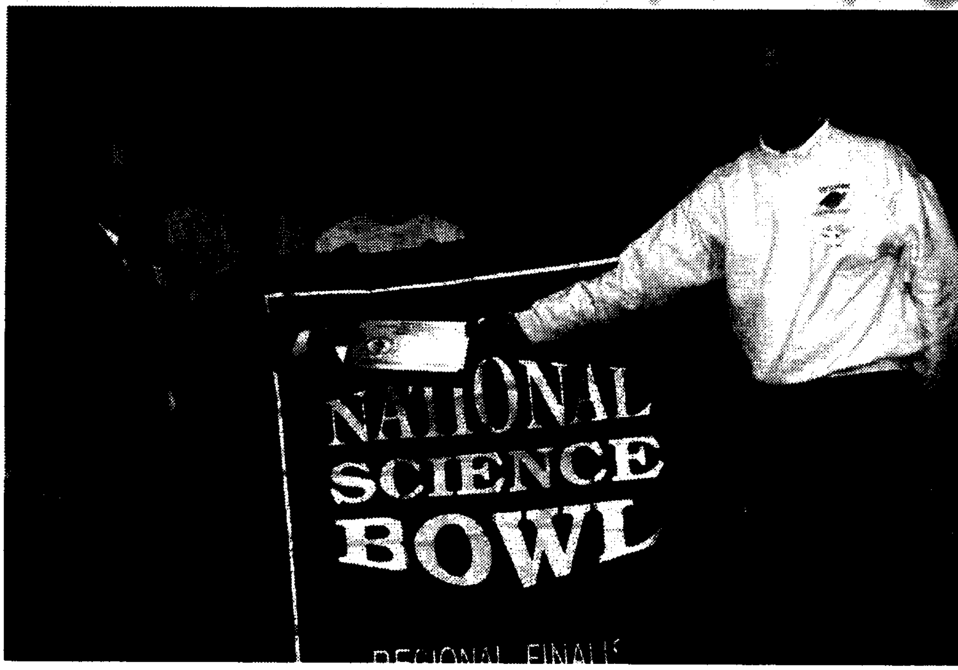
Working in the DOP Shop requires extensive training and hands-on experience. "This work is technical and precise," said Tim Smith, DOP SHOP team leader. "Every day, they're making decisions that affect the safety of our workforce. Before they're put in the position of making those decisions, they complete eight months of intense training."

"I enjoy this job because there's a new challenge every day, and every day we figure it out as a team," said pipefitter Paul Flynn. "I'm proud of the work we do here. I know that because of us, people are protected."

Flynn joined the DOP crew two years ago after working in Safe Shutdown -- where he used the equipment he now services. "I know from first-hand experience how important it is to have a HEPA vacuum you can trust," he said. "If a vacuum isn't operating at 99.97 percent efficiency, it doesn't leave here."

"Our customers come first," Mericle said. "We treat every piece of equipment we inspect as if we were the ones breathing the air. You can't ask for a much higher standard than that."

We Have A Winner! (Or Keeping An Ion Science)



Sycamore High School will represent the Greater Cincinnati Region in the U.S. Department of Energy's National Science Bowl in May after winning the regional contest held February 7 at Cincinnati State College. Following a day of tough competition, Sycamore was declared the victor by defeating twenty-three other local teams. Lakota West came in second place, Cincinnati Country Day placed third, and Moeller fourth.

Left: Here Sycamore coach Jim Smolik (right) accepts the winners plaque from event moderator Ken Morgan, DOE-OFO.

Fernald Citizens Advisory Board Plans for 1998

[illegible] progresses, the focus of the Citizens [illegible] technical and resource issues. CAB [illegible] of resources, efficiency, waste man- [illegible] and environmental monitoring. [illegible] be finalized at the next meeting on [illegible] 8:30 am in the Alpha Building. [illegible] public is welcome to attend this meeting. [illegible] new members, Jane Harper from [illegible] Warzinacher from Ross Township.

FERNALD
CITIZENS
ADVISORY
BOARD

Recent Tours

Glenn Carlson, Missouri Department of Natural Resources and Tom Onuko, OEPA visited Fernald to meet with managers who have projects comparable to work ongoing at the DOE Weldon Spring Site in Missouri. Their tour included a walkdown of the old Boiler Plant and a tour of the Advanced Wastewater Treatment Facility.

Left: Cathy Glassmeyer, Fluor Daniel Fernald engineer, explains the treatment process to Onuko and Carlson. (6805-3)

Lew Moores, a reporter for the Cincinnati Enquirer, toured the site on Jan. 28. He is responsible for covering Crosby Township.

Right: Gary Stegner (left), DOE Public Affairs, met with Moores to discuss issues and tour the site. (6810-2)

Colerain High School Jr. Achievement

Left: Colerain High School Jr. Achievement members and their instructor Ron Russo got a first-hand demonstration of personal protective equipment before touring the site. (6783-4)

Public Environmental

Public Reading Room, Administrative Record files and Post Record of

Information Center (PEIC):

- Ohio Environmental Protection Agency Discharge Monitoring Reports - November 1997
- Transmittal of Amendment to the Final Remedial Action Work Plan for Remedial Actions at Operable Unit 1
- Technical Review Comments on Letter Regarding Measurement and Calculation of Thorium-232
- Transmittal of Final Responses to the U. S. Environmental Protection Agency Comments on the Real-time Radiological Reports and Path Forward for Completing Real-Time Radiological Instrumentation Documentation
- Final Inspection Report on the Fernald Environmental Management Project with Respect to Compliance with the National Emission Standard for Hazardous Air Pollutants for Radionuclides
- Transcript from the Nov. 25 Fernald Cleanup Progress Briefing/Silos Project Public Hearing
- Plant 1 Complex - Phase I Project Completion Report, Revision 1
- Technical Review Comments on Plant 1 Complex - Phase I Project Completion Report General
- Transmittal of the Integrated Environmental Monitoring Quarterly Report
- Submittal of the Project Specific Plan for Sampling the Northeast Corner of Area 3
- Transmittal of Responses to Ohio Environmental Protection Agency Comments on the *Draft Final Baseline Remedial Strategy Report*, Remedial Design for Aquifer Restoration
- Draft Silos 1 & 2 Proof-of-Principle Statement of Work
- Project Specific Plan for Lead Delineation in the Area 2 Phase 1 Firing Range - Final Document
- Fernald Community Reuse Organization Public Participation Plan - Preliminary Draft - Jan. 6, 1998
- Transmittal of the *Draft Preliminary Wetland Mitigation Assessment*
- Transmittal of Analytical Data Associated with the First Integrated Environmental Monitoring Plan Quarterly Status Report
- Transmittal of On-Site Disposal Facility Impacted Materials Placement Plan
- Transcript of Public Statements From Dec. 2 Silo's Project meeting in Nevada

Fernald Report
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